

REMARKS

THE PENDING CLAIMS

Claims 1 through 31 have been canceled, without prejudice. Claims 32 through 69 have been added.

Applicant's Problem

The Applicant's main problem comprised finding an inexpensive, cost effective way to use non-traditional low quality, readily-available carbonaceous materials to obtain high quality coke. Furthermore, the Applicant addressed the problem of meeting or exceeding EPA standards using non-prime, non-traditional carbonaceous materials to produce coke.

For decades, coke fines have been a discarded by-product from traditional processes for obtaining coke from coking coals. Coke fines are typically stored as essentially worthless landfill.

By way of background:

1. The cost of producing coke, using traditional technology, is significantly escalating because:

- a. The supply of good quality coking coals is progressively significantly decreasing and mining of the same is steadily more difficult and more expensive;
- b. Old style plants are closing because they are too costly for production and maintenance and some require costly upgrades to meet ever more stringent EPA and other governmental standards;

c. Coke obtained from old style plants still in operation are expensive and sometimes the quality is inferior;

d. Newer form coke plants, only a few of which exist, are not cost effective, require sale of low priced excess by-products to obtain a positive cash flow and typically produce less than prime coke.

2. None of the prior processes reclaim coke fines as a primary feedstock.

3. None of the prior processes are self contained or entirely closed, in terms of full internal recycled utilization of tar and off-gas by-products.

4. None of the prior processes use inexpensive low grade coal as a major element of carbonaceous feedstock, nor do they use discarded waste coal fines, which traditionally are stored in slurry ponds or as landfill.

5. Surprisingly, the cost of producing coke using the present invention, at filing, was estimated as being within the range of \$50-60/ton, compared to current metallurgical coke prices in the range of \$100-120/ton and foundry coke in the range of \$140-160/ton, with coke from the present invention having greater strength, greater density and low reactivity. The Applicants have solved their problems in a remarkable and non-obvious way, which constitutes a breakthrough of major proportions in the coke producing art, by which coke fines, as a major feedstock component, and low grade coke fines, as a second major feedstock component are mixed and processes to obtain high quality coke. Neither of the two major feedstock components are washed, elutriated, dried and segregated before being pyrolyzed.

As pointed out in greater detail below, none of the prior art patents applied anticipate or make obvious the present invention, which is an extra-ordinary advance in the art, overcoming decades

when an unsatisfied major need existed for high quality coke from low quality, far less expensive carbonaceous material.

ANALYSIS OF THE PRIOR ART

Weber (U.S. 4,352,720) describes a typical form coke process. The process uses dried coal or fine coal mixtures as a feedstock. Mixing coals is necessary to be able to use higher swelling coals with a Free Swelling Index (FSI) of not more than 5, a critical limitation of Weber. The FSI requirement means the coal feedstock of Weber must be high quality and expensive. The use of coke fines is limited to that of a minor additive used only when it is necessary to bring the FSI of the washed, low FSI coal feedstock fuel down to 5 or less from a higher amount. However, Weber does not use coke fine as a major component of the washed coal feedstock.

To better understand the context of Weber's reference to coke fines, specific reference to Weber will be helpful. At Col. 5, lines 1-13, Weber delineates a main object of his invention:

Accordingly, it is an object of the invention to provide a process for the production of molded metallurgical coke from dried coal or fine coal mixtures with a low swelling index and particularly from highly volatile fine coal comprising mixing normal washed fine coal or fine coal mixtures of a grain size of from 0 to 10 mm and having a swelling index of not more than 5 with a binder, pressing the mixture into a briquette, oxidizing the briquettes in a continuous material flow stream, and coking the oxidized briquettes continuously in an oven chamber by supplying heat indirectly to the chamber and exhausting coke oven gases with a temperature of from 300° to 1200° C. (Emphasized)

From this quotation, it is clear Weber limits the essence of his briquette feedstock to "dried coal or fine coal mixtures" to the exclusion of coke fines. (Emphasized)

Weber, at Col. 5, lines 50-54, further characterizes his technology:

... a process for the production of molded metallurgical coke from dried coal or fine coal mixtures with a low swelling index and particularly highly volatile fine

coal. In addition the invention includes a device for carrying out the process.
(Emphasized.)

Further, Weber defines his feedstock, at Col. 5, lines 50-61:

An amount of . . . washed fine coal with the following properties: grain size equal to or less than 10 mm, volatile components b 28% af, input moisture 10%, ash content 6%. (Emphasized.)

Thus, not only is coke fines excluded by Weber as a fuel per se, but the washed coal fines must be within precise size, volatility, moisture and ash tolerances, making Weber's fuel expensive, as is the Weber process.

Finally, Weber, in his claims, limits his feedstock to "dried coal or fine coal mixtures with a low swelling index." Claim 1, lines 2-3.

The Weber briquettes are placed in a vertically-directed three-stage coking chamber to (1) oxidize the briquettes, (2) coke the briquettes, and (3) cool the briquettes. The purpose of oxidation is not clearly outlined in Weber, but may provide some reduction of the FSI. The coking chamber design and operation appears to comprise the main aspect of Weber's technology. Very little description regarding the actual physical and chemical properties of the fuel delivered to the coking chamber is presented in Weber. An admission is made by Weber that an extra amount of pyrolysis by-products is produced.

The system and methodology proposed by Weber is very complex and not cost-effective. Weber has not been commercialized.

To achieve operability, the coal fines, which may include coal fine mixtures, must be washed and, thereafter, dried as they are elutriated, segregated and mixed with a binder to form

green briquettes. These briquettes are oxidized, coked, using a coking oven supplied with indirect heat, and cooled.

Weber's feedstock, after being washed, is fed into wet coal bin 2 and thence elutriated up fly current dryer 5 using a hot gas discharge from the gas generator 10. It is necessary that this drying function leave a water content in the coal of less than 1%.

The coal so delivered through dryer 5 is segregated at sifter 7 with fine coal going into material separator 9, dust arrester 13 and fan 15 with some of the resultant being fed back via line 16 to gas generator 10 and the remainder delivered via line 17 to bag filter 18. Solids from bag filter 18 are delivered to line 25, whereas residual gas is vented to the atmosphere via vent 19. In sifter 7, the larger particles, of the washed and dried coal mix, are delivered to a hammer mill which grinds particles over 3 mm to smaller particles, which are delivered via line 20 to conveyor 27, as is true of the solid particles issuing from material separator 9, dust arrester 13 and bag filter 18 via lines 21, 23 and 25 respectively. The solid particles delivered to conveyor 27 pass by force of gravity into dry coal bin 29, the effluent of which is mixed with binder from source 31 in a mixing screw 32 and a kneading machine 33 to comprise raw material for double roll press 34 by which green briquettes are formed and conveyed via mechanisms 35, 36, and 37 to hopper 38.

Green briquettes from hopper 38 are selectively passed through lock chamber 39 into a charging bin 40 and thence into an oxygen chamber 41 in which the briquettes slide while being oxidized on the surface by hot flue gas. The hopper 38, the charging bin 40 and the oxygen chamber 41 are stacked along a common vertical axis.

The oxidized briquettes thereafter pass into coking chamber 42, located vertically below the oxygen chamber 41 along the same vertical axis, where indirect heating is used to create hot molded

coke at 1,000°C. Weber is largely silent as to exactly what takes place in his coking chamber 42.

The coke briquettes next move into cooler 43, also located along the same vertical axis directly below the coking chamber 42, where the hot molded coke is cooled to 50°C, with the coke briquettes exiting the system via lock chamber 44 and outlet 45.

Crude gases discharged from coking chamber 42 are displaced to the gas-cooling and purification mechanism shown in Figure 2, from which coal tar can be obtained. The tar may be used as a binder in forming the above-mentioned green briquettes. In this regard, attention is directed to Weber at column 7, lines 25 - 30, which states:

"The crude gas obtained during coking is conducted successfully over 69 for cooling as shown in Figure 2 through the three cooling stages 80/81/82 before it is available, after liberation of fine dust in electrofilter 83 and a pressure increase in gas exhauster 84 for drying, oxidation, coking and an access (line 78)."

Weber makes metallurgical coke briquettes from expensive washed coal fines having precise characteristics. The present invention is used to make metallurgical or foundry coke or smokeless fuels from a variety of inexpensive carbon sources including waste coke fines and waste coal fines and feedback tar to create a fixed carbon binder which holds the fines together.

The Weber process can not use high-ash waste coals since the ash content of the resulting product would not be acceptable.

Weber admits that the Weber process does not operate in a closed system since a "large amount of excess gas" is generated and discharged.

Deering (U.S. 4,530,752) discloses an oil shale retort, which recycles some part of pyrolyzed organic matter to heat the retort to liberate kerogen from the shale. Deering is not directed to coking and may not be used to produce coke. Fuel recycling is common to many processes to consume by-

product fuels generated in the main part of the process, thus improving efficiency. Deering describes fuel recycling for an oil shale retort process. In contrast, the fuel recycle of the present invention is used to heat a coking chamber. Deering clearly states “[n]ormally, the fines will be oil shale fines.” While Deering suggests, at Column 8, lines 50-61, that petroleum coke may be used in his shale retort process, that does not teach one of ordinary skill that coke fine mixed with non-prime coal can be used to produce high quality coke. Deering does not expressly disclose use of fines having the FSI mandated by Weber. Bridging the gap between the Weber and Deering technologies would not be obvious to one of ordinary skill. The reliance by the Examiner on Deering is a classic case of hindsight reliance on the present application, since Weber does not disclose the appropriateness of coke fines as an acceptable major feedback material, and Deering limits his technology to the production of oil and gas from shale. Weber and Deering are incompatible and noncombinable.

Nicaud (U.S. 6,043,289) discloses a technology which converts waste plastics into a bitumen base for industrial use. Synthetic petroleum-based bitumens are produced from thermoplastic materials (polyolefins). Thermoplastic materials have a very low fixed carbon (char) content and are not suitable for use (lack utility) as a binder in coke process of the type disclosed in the present application, without substantial alteration. No such alteration is suggested by the art relied upon.

There is no teaching in any of the three references relied upon that any one reference should or could be combined with either or both of the other two references. The proposed combinations by the Examiner do not result from a reading of the references, but are an effort to reconstruct the

art beyond anything readily apparent or obvious to one of ordinary skill and are based on confidential access to the contents of the present application.

THE 35 U.S.C. § 102 REJECTIONS AND RESPONSE THERETO

The Examiner rejected original Claims 1, 3-5, 7-9, 11-13, 15, 16, 28 and 29 under 35 USC § 102(b) as anticipated by Weber. For the reasons presented above, this rejection should not be advanced and repeated as to the presently pending claims.

With the foregoing in mind, the initial reliance was and any further reliance on U.S.C. § 102 would be misplaced as such violates and would continue to violate the strict "every element" [or every step] and "every function" requirements of U.S.C. § 102. Restated, § 102 may be applied to a claim only when "every element" and "every function" of the claim is found in the § 102 reference. For example, Lindemann Maschinenfabrik GMBH v. American Hoist and Derrick Co. et. al., 221 USPQ 481, 485 (CAFC 1984), which emphasizes the "every element" requirement:

Anticipation requires the presence in a single prior art reference of each and every element of the claimed invention arranged as in the claim. Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983); SSIH Equip. S.A. v. USITC, 718 F.2d 365, 218 USPQ 678 (Fed. Cir. 1983). In deciding the issue of anticipation, the trier of fact [Examiner] must identify the elements of the claims, determine their meaning in light of the specification and prosecution history, and identify corresponding elements disclosed in the alleged anticipation reference. (Emphasis supplied.)

RCA Corp. v. Applied Digital Data Systems, Inc., 221 USPQ 385, 389 at fn. 5 (Fed. Cir. 1984) emphasizes the "every function" requirement:

Anticipation is determined by comparison of the reference with the claims. The claims here define the invention in terms of several specific "means plus function" elements. The limitations which must be met by an anticipatory reference are those set forth in each statement of the function. In re Mott, 557

F.2d 266, 269, 194 USPQ 305, 307 (CCPA 1977). Such a limitation cannot be met by an element in a reference that performs a different function, even though it may be part of a device embodying the same general overall concept. (Emphasis added.)

The Federal Circuit confirmed the forgoing in Diversitech Corp. v. Century Steps, Inc., 7 USPQ2d 1315, 1317 (Fed. Cir. 1988):

For a prior art reference to anticipate in terms of 35 U.S.C. Section 102, every element of the claimed invention must be identically shown in a single reference. See Hybritech, Inc., v. Monoclonal Antibodies, Inc., 802 F.2d 1367, 1379, 231 USPQ 81, 90 (Fed. Cir. 1986), cert. denied, 107 S.Ct. 1606 (1987). (Emphasis provided).

Similarly, the Ninth Circuit, in Scott v. Inflatable Systems, Inc., 222 USPQ 460, 461 (9th Cir. 1983), has held:

Anticipation is a technical defense which must meet strict standards. Schroeder v. Owens-Corning Fiberglass Corp., 514 F.2d 901, 904, 185 USPQ 723, 725-26 (9th Cir. 1975). "Unless all of the same elements are found in exactly the same situation and united in the same way to perform the identical function in a single prior art reference, there is no anticipation." Walter v. General Motors Corp., 362 F.2d 56, 68 (9th Cir. 1966). (Emphasis supplied.)

Here, as in Ex parte Murphy and Burford, 217 USPQ 479, 481 (Bd. App. 1982), the Examiner must consider all of the limitations of the claims. In this regard, Ex parte Murphy and Burford holds:

Since all limitations of a claim must be considered in determining the claimed subject matter . . . and it is error to ignore specific limitations distinguishing over the reference. In re Boe, 505 F.2d 1297, 184 USPQ 38 (CCPA 1974).

The Examiner, in making the § 102 rejection, failed to give appropriate weight to functional statements tied to a specific structural means. This is error. As stated in Ex parte Bylund, 217 USPQ 492, 498 (Bd. of App. 1981):

... contrary to the Examiner's assertions, functional language in the claims must be given full weight and may not be disregarded in evaluating the patentability of the subject matter defined employing such functional language. (Emphasis provided.)

The foregoing is wholly consistent with MPEP § 2131:

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegall Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the . . . claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but . . . identity of terminology is not required. *In re Bond*, 15 USPQ2d 1566 (Fed. Cir. 1990).

Any attempt to read the present invention, as presently claimed, fully into any single reference does not comport in any way with the actual elements and functions disclosed in any reference of record. Withdrawal of § 102 as a basis for refusing allowance is, accordingly, appropriate and is courteously requested. It is not permissible to reconstruct, rearrange and alter a reference and still comply with the statutory requirements of 35 U.S.C. § 102.

THE 35 USC § 102 REJECTIONS AND RESPONSE THERETO

Claims 2, 10, 17-20 and 22 -27, as originally submitted, were rejected under 35 USC § 103(a) as obvious over Weber in view of Deering.

Claims 6 and 14, as originally submitted, were rejected under 35 USC § 103(a) as obvious over Weber in view of Nicaud.

Claim 21, as originally submitted, was rejected under 35 USC § 103(a) as obvious over Weber in view of Deering and further in view of Nicaud.

Claims 30 and 31, as originally submitted, were rejected under 35 USC § 103(a) as obvious over Weber.

The references are truly noncombinable, incompatible, would not produce the present invention if inventively combined, and do not alone or in combination make the present claimed invention obvious to one of ordinary skill for the reasons set forth above.

Under § 103, where, as here, the prior art relied upon does not disclose or even hint, much less suggest the claimed steps, certain case law precedents come into play and control, as hereinafter set forth.

In addressing the question of whether or not the present invention is obvious or nonobvious under § 103, it is important that several factors be carefully weighed. First, case law requires that the Examiner engage in a "problem" analysis to determine whether or not the prior art addresses the same problem or a different problem than that which confronted the inventors prior to making the present invention. Hindsight reconstruction of the prior art based upon confidential access to the present application is not available to establish obviousness.

The problems confronting the present inventors are identified above. The inventors were able to solve their problems, whereas the prior art did not.

If it is the Examiner's contention that the prior art addresses Applicants' problems and provide Applicants' solutions, it is respectfully requested that the Examiner identify the locations in the references relied on where Applicants' problems and solutions are mentioned and addressed.

More specifically, "the relationship between the problem which the inventor . . . was attempting to solve and the problem to which any prior art reference is directed" is highly relevant. Stanley Works v. McKinney Manufacturing Co., 216 USPQ 298, 304 (Del. D.C. 1981). Thus, in

analyzing the prior art under § 103 of the Act, we must clearly comprehend the problems addressed by the present inventors and such must be compared or contrasted, as the case may be, with the problem addressed by the prior art.

In respect to the applicability of any reference against claims of a pending U.S. patent application, the Examiner's attention is directed to In re Gibbons, 100 USPQ 398, where it is stated:

In considering the question of invention, it is necessary to determine whether or not the art relied upon contains adequate directions for the practice of the invention without resort to the involved application. (Emphasis added.)

The Examiner is courteously requested to find where in the references relied upon the requisite "adequate directions" are provided by the prior art relied on sufficient to reach the presently claimed invention. Since the prior art relied upon is neither intended nor able to achieve what the Applicants have achieved, as set forth in the presently pending claims, it is respectfully submitted that no directions whatever are provided by the references which would lead to the present invention, as claimed. Accordingly, the references should be accurately construed and withdrawn.

The pertinent primary inquiries in determining obviousness under § 103 are set forth in the Supreme Court's decision in Graham v. John Deere, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966). The primary considerations set forth therein require (1) determination of the scope and content of the prior art; (2) identification as to the differences between the prior art and the claims at issue; and (3) resolution of the level of ordinary skill in the pertinent art.

In respect to the scope of the prior art and the differences standards, the § 103 criteria provided by In re Winslow, 151 USPQ 48 (CCPA 1966) is that the prior art must address and provide the inventor's answer to the particular problem confronting an inventor. Here, the

references relied upon by the Examiner do not propose, expressly or inferentially or by sound reasoning, the claimed solution to the inventors' aforementioned problem. Consequently, the references fail the Winslow § 103 test.

In Orthopedic Company, Inc. v. United States, 217 USPQ 193 (Fed. Cir. 1983), the Federal Circuit set forth a useful guide for determining the scope and content of the prior art. Orthopedic, at pages 196, 197, also focuses on the "problem" faced by the inventor:

In determining the relevant art . . . one looks at the nature of the problem confronting the inventor.

* * * *

. . . would it then be nonobvious to this person of ordinary skill in the art to coordinate these elements in the same manner as the claims in suit? The difficulty which attaches to all honest attempts to answer this question can be attributed to the strong temptation to rely on hindsight while undertaking this evaluation. It is wrong to use the patent in suit [the patent application before the Examiner] as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit. Monday morning quarterbacking is quite improper when resolving the question of nonobviousness. . . .
(Emphasis added.)

Applying the Federal Circuit's analysis in Orthopedic, it is clear the claims of the present application are allowable under § 103. Persons ordinarily skilled in the art would be charged only with an understanding of the express teachings of the individual analogous references. These references do not expressly teach or suggest the claimed methodology. To read into the references the inventors' present solution, necessarily requires hindsight reliance on Applicants' application, contrary to the instructions of Orthopedic.

The references relied upon teach away from the present invention. No reference even hints at the Applicants' combination. Hence, the references are not available to defeat the pending claims

here, under § 103, giving effect to Orthopedic. If the Examiner persists in the § 103 rejection, it is again courteously requested that the locations in the references which propose or suggest Applicants' claimed methodology be identified.

The Federal Circuit has also said that "[t]he claimed invention must be considered as a whole, and the question is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination." (Emphasis provided). Lindemann Maschinenfabrik GmbH v. American Hoist and Derrick, 221 USPQ 481 (Fed. Cir. 1984). The above standard was reiterated in Fromson v. Advance Offset Plate, Inc., 225 USPQ 26 (Fed. Cir. 1985). Clearly, the present methodology as set forth in the present claims are not obvious "as a whole" from the references.

The Board of Appeals confirms that hindsight reliance through confidential access to an application being examined, in an attempt to arrive at the claimed invention under 35 U.S.C. § 103, is negated. See Ex parte Clapp, 227 USPQ 972, 973 (Bd. of App. 1985), which states:

To support the conclusion that the claimed combination is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed combination or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. (Emphasis supplied).

Here, there is no express or implied suggestion in the references that the claimed methodology could or should be used to solve the problem facing the present inventors. There is no convincing line of reasoning available in respect to the references by which an artisan would, as a matter of obviousness, have arrived at the present claimed invention absent any suggestion, express or implied, in the reference of the solution fashioned by the present inventors, as set forth in the claims.

Here, the indication of nonobviousness is substantial, under the primary considerations of Graham, i.e., the basic irrelevance of the prior art to the claimed methodology, failure of others to provide the inventors' solution both before and after the present invention and the fact that others have not foreseen the inventor's solution even though the prior art teachings have been around for some time. A determination of nonobviousness is compelling.

Nonobviousness follows from Panduit Corp. v. Dennison Manufacturing Co., 1 USPQ 2d 1593, 1605 (Fed. Cir. 1987):

Indeed, that the elements noted by the court lay about in the prior art available for years to all skilled workers, without, as the court found, suggesting anything like the claimed inventions, is itself evidence of nonobviousness. (Emphasis provided.)

Where, as here, the prior art is simply incapable of functioning as required by the present claims and achieving what is achieved by the present invention, § 103 rejections cannot be sustained. Here as in Ex parte Gould, 231 USPQ 943, 946 (Bd. App. 1986):

... the examiner has failed to make out a *prima facie case* that . . . [the prior art] achieved or is capable of achieving . . . [what is achieved by the present invention] we are constrained to reverse the rejections based on . . . [the prior art]. (Emphasis supplied.)

For the Examiner to assign attributes to the references which do not, in fact, exist and to entirely discount the critical language within the claims which is directed to Applicants' combination does not comply with the Graham requirement of [objectively] identifying the differences between the claimed invention and the prior art. Under In re Wood and Eversole, 202 USPQ 171, 174 (CCPA 1979), it was necessary:

... to more closely approximate the reality of the circumstances surrounding the making of an invention. . . . (Emphasis added.)

A brief examination of "hindsight" law as handed down by the Federal Circuit superimposed upon the facts of this case will be helpful.

See, for example, Union Carbide Corp. v. American Can Co., 220 USPQ 584, 591 (Fed. Cir.

1984):

... helps us to guard against slipping into hindsight rather than viewing the question as the inventor at the time the patented device was developed." (Emphasis provided.)

The hindsight approach was further criticized in W. L. Gore & Associates, Inc. v. Garlock, Inc., 220 USPQ 303, 312-313 (Fed. Cir. 1983):

To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher. (Emphasis added.)

The Federal Circuit repeated its prohibition against "hindsight" in Uniroyal, Inc. v. Rudkin-Wiley Corp., 5 USPQ 2d 1434, 1438, 1439 (Fed. Cir. 1988), where it was held:

"When prior art references require selective combination by the court to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gleaned from the invention itself." Something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination.

* * * *

There is no suggestion in any individual prior art reference of such a combination of location and configuration nor is it suggested by the prior art as a whole. ([I]t is impermissible to use the claims as a frame and the prior art references as a mosaic to piece together a facsimile of the claimed invention).

* * * *

... the district court . . . does not show that there is any teaching or suggestion in any of the references, or in the prior art as a whole, that would lead one with ordinary skill in the art to make the combination.

* * * *

In view of the antithetical principles of operation and the absence of any teaching or suggestion to combine these prior art devices, there is no apparent basis for the district court's conclusion that it would have been obvious to one skilled in the art to make the combination. (Emphasis added; citations omitted.)

The Uniroyal analysis applies here as well.

Clearly, the present invention is not obvious, based upon the analysis of primary considerations mandated by the U.S. Supreme Court in Graham.

The rejection under § 103 has a further malady. It fails to give any weight to the fact that the prior art patents teach away from the simplicity and reliability of the present invention. Here, as in In re Hedges, et al., 228 USPQ 685, 687 (Fed. Cir. 1986):

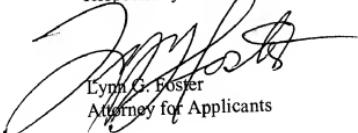
"The totality of the prior art disclosures leads substantially away from the claimed invention". We agree with . . . [Applicant] that the prior art as a whole must be considered. The teachings are to be viewed as they would have been viewed by one of ordinary skill. "It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art". (Emphasis added; citations omitted.)

For the reasons stated, the § 103 rejections cannot be sustained.

CONCLUSION

Presently pending Claims 32-68 define patentable subject matter not anticipated nor made obvious by the References. Allowance is proper and is courteously invited.

Respectfully submitted,



Lynn G. Foster
Attorney for Applicants

602 East 300 South
Salt Lake City, UT 84102
Telephone: (801) 364-5633